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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 13

Complete if Known

Application Number	
Filing Date	September 30, 2003
First Named Inventor	Lester F. Ludwig
Group Art Unit	
Examiner Name	
Attorney Docket Number	2738-22

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
<i>[Signature]</i>	A1	US-1,947,020	02-13-1934	Ranger	
	A2	US-3,493,669	02-03-1970	Elbrecht et al.	
	A3	US-3,591,699	07-08-1971	Cutler	
	A4	US-3,612,741	10-12-1971	Marshall	
	A5	US-3,651,242	03-21-1972	Evans	
	A6	US-3,730,046	05-01-1973	Spence	
	A7	US-3,742,133	06-26-1973	Cohen	
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	A10	US-3,878,748	04-22-1975	Spence	
	A11	US-3,956,959	05-18-1976	Ebihara et al.	
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	A13	US-4,075,921	02-28-1978	Heet	
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	A18	US-4,182,213	01-08-1980	Iodice	
<i>[Signature]</i>	A19	US-4,274,321	06-23-1981	Swartz	
	A20	US-4,318,327	03-09-1982	Toups	

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Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
<i>[Signature]</i>	B1	EP-0 574 213-A1	12-15-1993	Synaptics, Inc.		

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Signature*[Signature]*Date
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	A22	US-4,781,099	11-01-1988	Koike	
	A23	US-4,794,838	01-03-1989	Corrigau, III	
	A24	US-4,797,608	01-10-1989	White	
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	A28	US-5,045,687	09-03-1991	Gurner	
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A40		US-5,442,168	08-15-1995	Gurner et al.	

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[Signature]	A41	US-5,459,282	10-17-1995	Willis	
	A42	US-5,471,008	11-28-1995	Fujita et al.	
	A43	US-5,475,214	12-12-1995	DeFranco et al.	
	A44	US-5,565,641	10-15-1996	Gruenbaum	
	A45	US-5,585,588	12-17-1996	Tamura	
	A46	US-5,659,145	08-19-1997	Weil	
	A47	US-5,659,466	08-19-1997	Norris et al.	
	A48	US-5,665,927	09-09-1997	Taki et al.	
	A49	US-5,668,338	09-16-1997	Hewitt et al.	
	A50	US-5,675,100	10-07-1997	Hewlett	
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	A52	US-5,763,806	06-09-1998	Willis	
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	A60	US-6,051,769	04-18-2000	Brown, Jr.	

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First Named Inventor

Lester F. Ludwig

Group Art Unit

Examiner Name

Attorney Docket Number

2738-22

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	
		Filing Date	September 30, 2003
		First Named Inventor	Lester F. Ludwig
		Group Art Unit	
		Examiner Name	
Sheet	5	of	13
		Attorney Docket Number	2738-22

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	"Biax True Stereo Pickups," product description, Musician's Friend catalog.	
	C2	"Korg's New Z-1 Helps Fiddler Keep His Funk", Music and Sound Retailer, Mar. 1998.	
	C3	"Synaptics Targets Vision, Sound processing."	
	C4	"Yamaha VL1", advertisement, Electronic Musician, Apr. 1994.	
	C5	APPELMAN, D. RALPH, The Science of Vocal Pedagogy, Theory and Applications, 1967, Indiana University Press, Bloomington, Indiana, USA.	
	C6	Biaxe Ragamaster, Box 15426, Stamford, CT, 06901-0426, USA.	
	C7	BICANIC, DANE, ed. Photoacoustic and Photothermal Phenomena III. 1992, vol. 69, Springer-Verlag, Berlin Heidelberg, Germany.	
	C8	BORMANS, JAN "MPEG-4 systems need specialized CPUs", Electronic Engineering Times, Jan. 25, 1999.	
	C9	Boss DF-2, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C10	Boss OC-2 Service Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles 90040-3696, CA, USA.	
	C11	Boss SE-70 Super Effects Processor Algorithm Guide, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	

Examiner Signature		Date Considered	1/8/07
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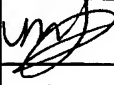

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Sheet 6 of 13

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Application Number	
Filing Date	September 30, 2003
First Named Inventor	Lester F. Ludwig
Group Art Unit	
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Attorney Docket Number	2738-22

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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	C12	Boss SE-70 Super Effects Processor Owners Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C13	CP-40 Pitch to Midi Converter, Roland, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C14	DMP9-16 Digital Mixing Processor, Yamaha Corporation, PO Box 1, Hamatsu, Japan.	
	C15	DP/4, Ensoniq, 155 Great Valley Parkway, Malvern, PA 19355, USA.	
	C16	E-Bow, Heet Sound Products. PO Box 3312, 611 Ducommun St., Los Angeles, CA 90051, USA.	
	C17	EPSTEIN, "The Search for New Chemical Oscillators," in Chemical Instabilities, Nicolis and Baras (eds.), 1984, D.Reidel Publishing, Dordrecht/Boston/Lancaster.	
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	C19	Ernie Ball, Volume Pedal, Musician's Friend Catalog.	
	C20	Etc., PETER, Letter to Editor, Experimental Musical Instruments, Jun., 1996.	
	C21	EWI3020, AKAI Corporation, Box 2344 Fort Worth, TX 76113, USA.	
	C22	FIELD, RICHARD J., and NOYES, RICHARD M. "Oscillations in Chemical Systems IV Limit Cycle Behavior in a Model of a Real Chemical Reaction," J. Chem. Physics, Vol. 60, No. 5, Mar. 1974.	

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Sheet	7	of	13
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	C23	GI-10 Guitar-Midi Interface, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C24	GRAY, PETER, and SCOTT, STEPHEN K, "Chemical Oscillations and Instabilities," 1990, Clarendon Press, Oxford, Great Britain.	
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	C26	GZOWSKI, JOHN "Sirens and Sympathetics", Experimental Musical Instruments, Jun. 1997, vol. 12, No. 4.	
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	C33	LEIBERMAN, DAVID "Software goes on a search-and-locate mission", Electronic Engineering Times, Jan. 25, 1999, pp. 44.	

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[Signature]	C34	LEIBERMAN, DAVID "Touch screens extend grasp into consumer realm" Electronic Engineering Times, Feb. 8, 1999.	
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	C37	Lord LTS-300T Tactile Array Sensor, Lord Corp., Ind. Aut. Div., 407 Gregson Dr., PO Box 8200, Cary, NC, 27511-8200, USA.	
	C38	LUDWIG, L., "A Generalized Linear Amplitude Processor," Electronotes, Dec. 1979, vol. 11, No. 108.	
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	C42	MIDI Player MP-88, Miditemp, Max-Halbe-Strasse 1 85716 Unterschleissheim, Germany 0049-89-3-10-61-38.	
	C43	MOOG, ROBERT A. "The Human Finger-A Versatile Electronic Music Instrument Component", Audio Engineering Society Preprint, 1977, New York, NY, USA.	
[Signature]	C44	MS4-MS3 Solton, Ketrion lab, dist. By Bell Douvoux Corp. 126 Rt. 303, 10994 W. Nyack, NY, USA.	

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<i>ms</i>	C45	MURPHY, AAMODT, Spicer and Royce (eds) Photoacoustic and Photothermal Phenomena II, 1990, vol. 62, Springer-Verlag, Berlin Heidelberg, Germany.	
	C46	NAGY-UNGVARAI, Z. and HESS, BENNO "Control of Dynamic Pattern Formation in the Belous-ov-Zhabotinsky Reaction" Physica D (1991) North-Holland.	
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	C52	PENNYWITT, KIRK "Robotic Tactile Sensing," Byte, Jan., 1986.	
	C53	PLM 8128E, Peavey, Corporation, 711 A St., Meridan, MS 39302-2898, USA.	
<i>ms</i>	C54	PMC10 Program. MIDI Foot Controller, Digitech, Salt Lake City, UT, USA.	
	C55	Review of KORG X-230 Drum (later called "Wave Drum"), Electronic Musician, Apr. 1994.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Application Number	
		Filing Date	September 30, 2003
		First Named Inventor	Lester F. Ludwig
		Group Art Unit	
		Examiner Name	
(use as many sheets as necessary)		Attorney Docket Number	2738-22
Sheet	10	of	13

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
[Handwritten mark]	C56	RICH, ROBERT "Buchla Lightning MIDI Controller", Electronic Musician, Oct. 1991.	
	C57	RICH, ROBERT "Buchla Thunder", Electronic Musician, Aug. 1990.	
	C58	ROADS, C., "A Tutorial on Non-linear Distortion or Waveshaping Synthesis," Computer Music Journal, Vol. 3, No. 2, pp. 29-34, June 1979, People's Computer Company, Menlo Park, CA, USA.	
	C59	Robotic Tactile Sensig, Kirk Pennywitt, BYTE, Jan. 1986.	
	C60	Roland's COSM: A Whole New World of Sounds, Kikumoto/Meyer, Roland Users' Magazine. 7200 Dominion Circle, Los Angeles, CA, 90040-3696, USA.	
	C61	RONSE, CHRISTIAN and DEVIJVER, PIERRE A., Connected Components in Binary Images: the Detection Problem, 1984, Research Studies Press/ John Wiley & Sons Inc., New York, NY, USA.	
	C62	RSP-550 Algorithm Guide, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C63	RSP-550 Owners Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C64	RUOFF, P. "How Bromate Oscillators Are Controlled", Am. Chem. Society, 1988.	
	C65	Sentient Six digital guitar interface, PASSAC, Milpitas, CA 95035, USA.	
[Handwritten mark]	C66	SGE MACH II, Applied Research and Technology, 215 Tremont St., Rochester, NY 14608, USA.	

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	C67	SHAPIRO, LARRY S, Affine Analysis of Image Sequences, 1995, Press Syndicate of the Cambridge University Press.	
	C68	SLAWSON, WAYNE, Sound Color, 1985, University of California Press, Berkeley, CA, USA.	
	C69	SNELL, JOHN M. "Sensors for Playing Computer Music with Expression", Proceedings of the Intl. Computer Music Conf. at Eastman, 1983.	
	C70	Switchblade 16, Sound Sculpture, 5741 Arapahoe Rd. Ste. 2a Boulder, CO 80303, USA.	
	C71	Synthophone, Softwind Instruments, 304 Newbury St. Ste. 323, Boston, MA 02155, USA.	
	C72	Tactile sensors and the gripping challenge, IEEE Spectrum Aug. 1985.	
	C73	The Fretless Wizard, Biaxe, P.O. Box 15426, Stamford, CT, 06901-0426, USA.	
	C74	Trilogy, Hipshot Music Prods. Van Nuys, NY, USA.	
	C75	TYSON, JOHN J., The Belousov-Zhabotinskii Reaction, Springer-Verlag, Berlin/Heidelberg, Germany.	
	C76	Unlocking the Secrets of HRM (Harmonic Restructure Modeling), Craig Anderton, Roland Users' Magazine. 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C77	Various 6D Tracking Products, Ascension Technology Corporation, PO Box 527, Burlington, VT 05402, USA.	

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	C78	VERNER, J. Artif Starr Switch Company Ztar 624-D, Electronic Musician, Nov. 1994.	
	C79	VG-8 Users Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA, 90040-3696, USA.	
	C80	VIBERG, MATS, Subspace Fitting Concepts in Sensor Array Processing, Linkoping Studies in Science and Technology, 1989, Dissertations No. 27 Linkoping, Sweden.	
	C81	VISINTIN, A. (ed.), Models of Hysteresis, Longman Scientific & Technical, 1993, Harlow, En-gland.	
	C82	WANG, X-J, and NICOLIS, G. "Bifurcation Phenomena in Coupled Chemical Oscillators: Normal Form Analysis and Numerical Simulations", Physica 26D (1987), pp. 140-155, North-Holland, Amsterdam.	
	C83	WESSEL, C., "A Tutorial on Non-linear Distribution or Waveshaping Synthesis", Computer Music Journal, Jun. 1979, Vol. 3, No. 2, pp. 29-34, People's Computer Company, Menlo Park, CA., USA.	
	C84	WILKINSON, SCOTT "SynchroVoice MidVox" Electronic Musician, Jul. 1992.	
	C85	WINCKEL and FRITZ, Music Sound, and Sensation: A Modern Exposition, 1967, Dover, New York, USA.	
	C86	Wind Machine, Anatek, Creation Technologies, 400 Brooksbank Ave. B.C. Canada V7J-1G9	
	C87	WX11 and Wt11, Yamaha, 6600 Orangethorpe Ave., Box 6600, Buena Park, CA, USA.	
	C88	XSDR A12 Synthesizer Module, KORG, Suginamiku, Tokyo, Japan.	

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	C89	Yamaha FS1R, Electronic Musician, Dec., 1998.	
	C90	Yamaha WX11 and WT11, Midi Magazine Mar./Apr. 1994. Yamaha Corp. of America, 6600 Orangethorpe Ave., PO Box 6600 Buena Park, CA 90622-6600, 714 522-9011.	
	C91	ZTAR Midi Fingerboard Controllers-Starr Instruments/Starr Switch, 1717 Fifth Ave., San Diego, CA 92101, USA.	

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